

Rocks ▪ Enrich

The Same but Different

Can two different rocks with different names have the same mineral composition? The answer is yes. There are six major kinds of igneous rocks: granite, diorite, gabbro, rhyolite, andesite, and basalt. Geologists usually group these six kinds of igneous rocks in pairs, because each pair generally contains the same minerals. Study the table below to see which igneous rocks are the same but different.

Common Igneous Rocks

Intrusive rocks (Coarse-grained)	Granite	Diorite	Gabbro
Extrusive rocks (Fine-grained)	Rhyolite	Andesite	Basalt
Minerals	Quartz, Feldspar, Muscovite, Amphibole	Amphibole, Feldspar, Pyroxene	Feldspar, Pyroxene, Olivine, Amphibole
Color	Light colored	Medium gray or green	Dark gray to black
→ → → → → → → Silica content of rock decreases → → → → → → →			
→ → → → → → → Rock color becomes darker → → → → → → →			

Answer the following questions on a separate sheet of paper.

- Which of the six major kinds of rock are intrusive and which are extrusive?
- Compare granite with rhyolite. How are they similar? How are they different?
- Compare the mineral composition of diorite with the mineral composition of andesite.
- In what way is gabbro different from basalt? What can you infer from this about how these two kinds of igneous rocks form?
- How is granite like gabbro?
- Which rock has more silica in it, granite or basalt?
- Is a rock with more silica in it likely to be lighter or darker than a rock with less silica in it?